IN THE CLAIMS

Please amend the claims as follows:

Claim 1 (Original): A film formation method for forming a metal nitride film having a predetermined thickness on a target substrate by heating the target substrate at a film formation temperature within a process container and performing a cycle comprising a first step and a second step at least once, such that the first step is arranged to supply a metal compound gas and a nitrogen-containing reducing gas to form a film of a metal nitride by CVD, and the second step is arranged to stop the metal compound gas and supply the nitrogen-containing reducing gas,

wherein, in film formation, the target substrate is set at a temperature of less than 450°C, the process container is set to have therein a total pressure of more than 100 Pa, and the nitrogen-containing reducing gas is set to have a partial pressure of 30 Pa or less within the process container in the first step.

Claim 2 (Original): The film formation method according to claim 1, wherein a film thickness obtained by the cycle performed once is set to be 0.50 nm or less.

Claim 3 (Original): The film formation method according to claim 1, wherein, in the first step, the nitrogen-containing reducing gas is set to have a partial pressure of 20 Pa or less within the process container.

Claim 4 (Original): The film formation method according to claim 3, wherein a film thickness obtained by the cycle performed once is set to be 2.0 nm or less.

Claim 5 (Original): The film formation method according to claim 1, wherein, in the first step, the nitrogen-containing reducing gas is set to have a partial pressure of 15 Pa or less within the process container.

Claim 6 (Original): The film formation method according to claim 1, wherein, in film formation, the target substrate is set at a temperature of 400°C or less.

Claim 7 (Original): A film formation method for forming a TiN film having a predetermined thickness on a target substrate by heating the target substrate at a film formation temperature within a process container and performing a cycle comprising a first step and a second step at least once, such that the first step is arranged to supply a Ti compound gas and a nitrogen-containing reducing gas to form a film of TiN by CVD, and the second step is arranged to stop the Ti compound gas and supply the nitrogen-containing reducing gas,

wherein, in film formation, the target substrate is set at a temperature of less than 450°C, the process container is set to have therein a total pressure of more than 100 Pa, and the nitrogen-containing reducing gas is set to have a partial pressure of 30 Pa or less within the process container in the first step.

Claim 8 (Original): The film formation method according to claim 7, wherein the Ti compound gas is $TiCl_4$ and the nitrogen-containing reducing gas is NH_3.

Claim 9 (Original): The film formation method according to claim 7, wherein a film thickness obtained by the cycle performed once is set to be 0.50 nm or less.

Claim 10 (Original): The film formation method according to claim 7, wherein, in the first step, the nitrogen-containing reducing gas is set to have a partial pressure of 20 Pa or less within the process container.

Claim 11 (Original): The film formation method according to claim 10, wherein a film thickness obtained by the cycle performed once is set to be 2.0 nm or less.

Claim 12 (Original): The film formation method according to claim 7, wherein, in the first step, the nitrogen-containing reducing gas is set to have a partial pressure of 15 Pa or less within the process container.

Claim 13 (Original): The film formation method according to claim 7, wherein, in film formation, the target substrate is set at a temperature of 400°C or less.

Claim 14 (Original): The film formation method according to claim 7, wherein, in the first step, the nitrogen-containing reducing gas is set at a flow rate of 20 mL/min or more.

Claim 15 (Original): The film formation method according to claim 7, wherein, in the first step, the Ti compound gas is set to have a partial pressure of more than 10 Pa and not more than 50 Pa.

Claim 16 (Original): The film formation method according to claim 7, wherein the TiN film is set to have a resistivity of 800 $\mu\Omega$-cm or less.

Claim 17 (Original): A film formation method for forming an initial metal nitride film having a first thickness on a target substrate by heating the target substrate at a film formation temperature within a process container and performing a cycle comprising a first step and a second step at least once, such that the first step is arranged to supply a metal compound gas and a nitrogen-containing reducing gas to form a film of a metal nitride by CVD, and the second step is arranged to stop the metal compound gas and supply the nitrogen-containing reducing gas; and then forming thereon an additional metal nitride film having a second thickness by continuous CVD arranged to supply a metal compound gas and a nitrogen-containing reducing gas onto the target substrate,

wherein, in formation of the initial metal nitride film, the target substrate is set at a temperature of less than 450°C, the process container is set to have therein a total pressure of more than 100 Pa, and the nitrogen-containing reducing gas is set to have a partial pressure of 30 Pa or less within the process container in the first step.

Claim 18 (Original): The film formation method according to claim 17, wherein the first thickness is smaller than the second thickness.

Claims 19-20 (Canceled).

Claim 21 (Currently Amended): [[A]] The film formation method according to claim 17, ~~for forming an initial metal nitride film having a first thickness on a target substrate by heating the target substrate at a film formation temperature within a process container and performing a cycle comprising a first step and a second step at least once, such that the first step is arranged to supply a metal compound gas and a nitrogen-containing reducing gas to form a film of a metal nitride by CVD, and the second step is arranged to stop the metal~~

~~compound gas and supply the nitrogen-containing reducing gas; and then forming thereon an additional metal nitride film having a second thickness by performing a cycle comprising the first step and the second step at least once;~~

~~wherein, in formation of the initial metal nitride film, the target substrate is set at a temperature of less than 450°C, the process container is set to have therein a total pressure of more than 100 Pa, and the nitrogen-containing reducing gas is set to have a partial pressure of 30 Pa or less within the process container in the first step, and~~ wherein, in formation of the additional metal nitride film, the nitrogen-containing reducing gas is set to have a partial pressure of more than 30 Pa within the process container in the first step.

Claims 22-23 (Canceled).

Claim 24 (Original): A film formation method for forming a metal nitride film having a predetermined thickness on a target substrate by heating the target substrate at a film formation temperature within a process container and performing a cycle comprising a first step and a second step at least once, such that the first step is arranged to supply a metal compound gas and a nitrogen-containing reducing gas to form a film of a metal nitride by CVD, and the second step is arranged to stop the metal compound gas and supply the nitrogen-containing reducing gas,

wherein, in film formation, the target substrate is set at a temperature of less than 450°C, and the process container is set to have therein a total pressure of more than 100 Pa, and wherein the metal nitride film is set to have a resistivity R of 800 $\mu\Omega$-cm or less calculated by a following formula (A);

$$R = 115.75 \times Ln(T_{hk}) + 71.576 \times Ln(P_N) + 418.8 \quad ...(A)$$

where P_N (Pa) denotes a partial pressure of the nitrogen-containing reducing gas within the process container in the first step, and T_{hk} (nm) denotes a film thickness obtained by the cycle performed once.

Claim 25 (Original): The film formation method according to claim 24, wherein the metal compound gas is a Ti compound gas and the metal nitride film is a TiN film.

Claim 26 (Original): The film formation method according to claim 25, wherein the Ti compound gas is $TiCl_4$ and the nitrogen-containing reducing gas is NH_3.

Claim 27 (Currently Amended): [[A]] The film formation method according to claim 24, ~~for forming a metal nitride film having a predetermined thickness on a target substrate by heating the target substrate at a film formation temperature within a process container and performing a cycle comprising a first step and a second step at least once, such that the first step is arranged to supply a metal compound gas and a nitrogen-containing reducing gas to form a film of a metal nitride by CVD, and the second step is arranged to stop the metal compound gas and supply the nitrogen-containing reducing gas,~~

wherein, in film formation, the target substrate is set at a temperature of less than 450°C, and the process container is set to have therein a total pressure of more than 100 Pa, and wherein the metal nitride film is set to have a resistivity R of 800 $\mu\Omega$-cm or less calculated by a following formula (B);

$$R = 115.75\times Ln(T_{hk}) + 71.576\times Ln(P_N) - 57.685\times Ln(F_N) + 614 \quad ...(B)$$

where P_N (Pa) denotes a partial pressure of the nitrogen-containing reducing gas within the process container in the first step, T_{hk} (nm) denotes a film formation thickness obtained by

the cycle performed once, and F_N (mL/min) denotes a flow rate of the nitrogen-containing reducing gas in the first step.

Claims 28-29 (Canceled).

Claim 30 (Currently Amended): [[A]] The film formation method according to claim 24, ~~for forming a metal nitride film having a predetermined thickness on a target substrate by heating the target substrate at a film formation temperature within a process container and performing a cycle comprising a first step and a second step at least once, such that the first step is arranged to supply a metal compound gas and a nitrogen-containing reducing gas to form a film of a metal nitride by CVD, and the second step is arranged to stop the metal compound gas and supply the nitrogen-containing reducing gas,~~

wherein, in film formation, the target substrate is set at a temperature of less than 450°C, and the process container is set to have therein a total pressure of more than 100 Pa, and wherein the metal nitride film is set to have a resistivity R of 800 $\mu\Omega$-cm or less calculated by a following formula (C);

$$R = 115.75\times Ln(T_{hk}) + 71.576\times Ln(P_N) - 57.685\times Ln(F_N) - 2844.6Ln(T_W) + 17658.3 \quad ...(C)$$

where P_N (Pa) denotes a partial pressure of the nitrogen-containing reducing gas within the process container in the first step, T_{hk} (nm) denotes a film formation thickness obtained by the cycle performed once, F_N (mL/min) denotes a flow rate of the nitrogen-containing reducing gas in the first step, and T_W (°C) denotes temperature of the target substrate.

Claims 31-32 (Canceled).

Claim 33 (Original): A computer readable medium containing software for a computer to control a film formation apparatus, so as to form a metal nitride film having a predetermined thickness on a target substrate by heating the target substrate at a film formation temperature within a process container and performing a cycle comprising a first step and a second step at least once, such that the first step is arranged to supply a metal compound gas and a nitrogen-containing reducing gas to form a film of a metal nitride by CVD, and the second step is arranged to stop the metal compound gas and supply the nitrogen-containing reducing gas, wherein, in film formation, the target substrate is set at a temperature of less than 450°C, the process container is set to have therein a total pressure of more than 100 Pa, and the nitrogen-containing reducing gas is set to have a partial pressure of 30 Pa or less within the process container in the first step.

Claim 34 (Canceled).

Claim 35 (Original): A computer readable medium containing software for a computer to control a film formation apparatus, so as to form a metal nitride film having a predetermined thickness on a target substrate by heating the target substrate at a film formation temperature within a process container and performing a cycle comprising a first step and a second step at least once, such that the first step is arranged to supply a metal compound gas and a nitrogen-containing reducing gas to form a film of a metal nitride by CVD, and the second step is arranged to stop the metal compound gas and supply the nitrogen-containing reducing gas, wherein, in film formation, the target substrate is set at a temperature of less than 450°C, and the process container is set to have therein a total pressure of more than 100 Pa, and wherein the metal nitride film is set to have a resistivity R of 800 $\mu\Omega$-cm or less calculated by a following formula (A);

$$R = 115.75 \times \mathrm{Ln}(T_{hk}) + 71.576 \times \mathrm{Ln}(P_N) + 418.8 \quad \ldots(A)$$

where P_N (Pa) denotes a partial pressure of the nitrogen-containing reducing gas within the process container in the first step, and T_{hk} (nm) denotes a film thickness obtained by the cycle performed once.

Claim 36-40 (Canceled).